

CLAIMS

1. Electrospray source having a structure comprising at least one flat and thin tip (3) in 5 cantilever in relation to the rest of the structure, said tip (3) being provided with a capillary slot (5) formed through the complete thickness of the tip and which ends up at the end (6) of the tip (3) to form the ejection orifice of the electrospray source, the source 10 comprising means of supplying (4) the capillary slot (5) with liquid to be nebulised and means of applying an electrospray voltage to said liquid.

2. Electrospray source according to claim 15 1, characterised in that the supply means comprise at least one reservoir (4) in fluidic communication with the capillary slot (5).

3. Electrospray source according to claim 20 1, characterised in that the structure comprises a support (1) and a wafer (2) integral with the support and in which a part constitutes said tip (3).

4. Electrospray source according to claim 25 3, characterised in that the supply means comprise a reservoir (4) constituted by a recess formed in said wafer (2) and in fluidic communication with the capillary slot (5).

30 5. Electrospray source according to any of claims 1 to 4, characterised in that the means of

applying an electrospray voltage comprise at least one electrode (7, 8) arranged so as to be in contact with said liquid to be nebulised.

5 6. Electrospray source according to any of claims 3 or 4, characterised in that the means of applying an electrospray voltage comprise the support, at least partially electrically conductive, and/or the wafer at least partially electrically conductive.

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7. Electrospray source according to any of claims 1 to 4, characterised in that the means of applying an electrospray voltage comprise an electrically conductive wire (32) arranged in order to 15 be able to be in contact with said liquid to be nebulised.

8. Electrospray source according to any of claims 1 to 7, characterised in that the supply means 20 comprise a capillary tube.

9. Electrospray source according to any of claims 1 to 7, characterised in that the supply means comprise a channel formed in a microsystem supporting 25 said structure and in fluidic communication with the capillary slot.

10. Electrospray source according to one of claims 3 or 4, characterised in that the wafer (2) has 30 a surface hydrophobic to the liquid to be nebulised.

11. Method of manufacturing a structure being an electrospray source, comprising:

- the formation of a support (1) from a substrate (10),

5 - the formation of a wafer (2) having a part constituting a flat and thin tip (3), said tip being provided with a capillary slot (5), to convey a liquid to be nebulised, formed in the complete thickness of the tip and which ends up the end of the
10 tip,

- making said wafer (2) integral on the support (1), the tip (3) being in cantilever in relation to the support.

15 12. Method according to claim 11, characterised in that it comprises the following steps:

- the provision of a substrate (10) to form the support (1),

20 - the delimitation of the support (1) by means of trenches (13) etched in the substrate (10),

- the deposition, on a zone of the substrate corresponding to the future tip of the structure, of sacrificial material (14) according to a determined thickness,

25 - the deposition of the wafer (2) on the support (1) delimited in the substrate (10), the tip (3) of the wafer (2) being situated on the sacrificial material (14),

30 - the elimination of the sacrificial material (14),

- the detachment of the support (1) in relation to the substrate (10) by cleavage at the level of said trenches (13).

5 13. Method according to claim 12, characterised in that the step of deposition of the wafer (2) is a deposition of a wafer comprising a recess in fluidic communication with the capillary slot (5) in order to constitute a reservoir (4).

10 14. Method according to one of claims 12 or 13, characterised in that it further comprises a step of depositing at least one electrode (7, 8) intended to assure an electrical contact with the liquid to be 15 nebulised.

20 15. Application of the electrospray source according to any of claims 1 to 10 to obtain an ionisation of a liquid by electrospraying before its analysis by mass spectrometry.

25 16. Application of the electrospray source according to any of claims 1 to 10 to obtain a production of drops of liquid of calibrated size or the ejection of particles of fixed size.

17. Application of the electrospray source according to any of claims 1 to 10 to the carrying out of a molecular writing by means of chemical compounds.

18. Application of the electrospray source according to any of claims 1 to 10 to the definition of the electrical junction potential of a device in fluidic continuity.